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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,577	10/21/2005	Toshiyuki Kanno	FUII-0344	4816
37013 7590 08/05/2010 ROSSI, KIMMS & McDOWELL, LLP. 20609 Gordon Park Square, Suite 150 Ashburn, VA 20147				
EXAMINER				
KASHNIKOW, ERIK				
ART UNIT		PAPER NUMBER		
1782				
NOTIFICATION DATE		DELIVERY MODE		
08/05/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail@rkmlegalgroup.com

Office Action Summary

Application No.

10/532,577

Applicant(s)

KANNO ET AL.

Examiner

ERIK KASHNIKOV

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG-08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/21/10 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 8, 10 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Aida et al. (EP 0 405 982).

4. In regards to claims 1 and 3 Aida et al. teach a thermoplastic resin which incorporates inorganic filler, flame retardant agent (page 1 lines 3-8), glass fiber (reinforcing fibers)(page 5 lines 23-25) and a cross linking agent in an amount of 0.01-7 parts per weight per 100 parts of the thermoplastic polymer composition (claim 2). Aida et al. teach trimethylpropane trimethacrylate and polyethylene dimethacrylate as compounds used in combinations of two or more (page 5 lines 9-15) which is a

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preferred crosslinking agent of the instant invention. Aida et al. teach that the resin is cross linked by a heat treatment (claim 1). Finally Aida et al. teach the resin can be molded into various shapes (page 3 lines 26-30). Aida et al. teach that the fillers and crosslinking agents are all mixed during the heat treatment, and as such some of the crosslinking agents would be adsorbed on to the fillers prior to crosslinking, and further they would be adsorbed on prior to the formation of the finished article.

5. In regards to claim 8 Aida et al teach that the inorganic filler be present in amounts of 5-200 parts per 100 parts of the resin composition, this relates to 4.75-66.66% of the entire resin composition, which overlaps Applicant's range (page 5 lines 31-35).

6. In regards to claim 10 Aida et al. teach that the resin composition contains a flame retardant in amounts of 4.75-66.6% by weight of the entire resin composition (page 5 line 36 page 6 line 6).

7. In regards to claim 12 Aida et al. teach that their invention may be used for insulating of electrical wires (page 3 lines 25-30).

8. As stated above Aida et al. teach the molded articles of applicant's invention however they are silent regarding adsorbing the cross linking agents onto an inorganic filler. However as all aspects of the invention are taught (i.e. the inorganic fillers and applicant's preferred crosslinking agents) and Aida et al. teach that the inorganic filler and applicants preferred crosslinking agents are mixed together at the time of heat treatment and then undergo heat treatment/crosslinking. One of ordinary skill in the art would recognize that it must necessarily be so that some of, if not all of the crosslinking

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agents would be adsorbed onto the inorganic filler. One of ordinary skill in the art would recognize that adsorption is the attraction of atoms or molecules on to an exposed solid surface and that van der Waals forces are the main forces that will initiate the attraction. As such the van der Waals forces present in trimethylpropane trimethacrylate would attract the compounds on to a good adsorptive base, such as the alumina taught by Aida et al. (page 5 line 22) It is further noted that the broadest possible limitation of the current claim does not require that all of the crosslinking agent is adsorbed onto the inorganic filler.

9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aida et al. (EP 0 405 982) in view of Funayama et al. (5,128,286).

10. As stated above Aida et al. teach molded articles which contain a cross linking agent as well as a multitude of inorganic fillers, however they are silent regarding some of the specific cross linking agents of Applicants invention.

11. In regards to claim 4 Aida et al. teach that the primary resin in the molded article may be a polyamide (page 3 line 54).

12. In regards to claims 4 Funyama et al. teach a cross linking agent which has a main skeleton which comprises an N element containing cyclic compound, this is the borazine cross linking agent shown as compound (iii) (column 7 lines 5-18).

13. In regards to claim 5 Funyama et al. teach that the R4 components of the borazine may be hydrogens or alkenyl groups. While they are silent regarding the specific examples of the Applicant's side chains it would be obvious to one of ordinary

skill in the art at the time of the invention to pick the side chains using the functional groups listed by Funayama that best cross links the desired compounds.

14. It would be obvious to one of ordinary skill in the art at the time of the invention to modify the Invention of Aida et al. with that of Funayama et al. because the invention of Aida et al. which offers a molded product that is superior in moldability without loss of mechanical strength (page 3 lines 17-22) would benefit from the boron compounds which improves mechanical strength at high temperatures (column 3 lines 5-10).

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aida et al. (EP 0 405 982) in view of Funayama et al. (5,128,286) Marzocchi (3,888,645).

16. As stated above Aida et al. teach molded articles which contain a cross linking agent as well as inorganic fillers, including glass fibers included in amounts ranging from 4.75-66.6% by weight of the entire resin (page 5 lines 19-35) however they are silent regarding coating the glass fibers with a resin.

17. Marzocchi teaches a method of treating glass fibers used as fiber reinforcement. Marzocchi teaches that the glass fibers are coated with a resin (claim 1).

18. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the article of Aida et al. with the glass fibers of Marzocchi et al. because the article of Aida et al. which has a product that is superior in moldability without loss of mechanical strength (page 3 lines 17-22) would benefit from the improved abrasion resistance (column 1 lines 3-7) of the glass fibers of Marzocchi.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aida et al. (EP 0 405 982) in view of Funayama et al. (5,128,286) and (US 4,889,885).

20. As stated above Aida et al. teach molded articles which contain a cross linking agent as well as inorganic fillers, including clay in ranges from 4.75-66.66% by weight (page 5 lines 19-35) but are silent regarding the clay being a stratified clay.

21. Usuki et al. teach a composite material with high mechanical strength and heat resistance (column 1 lines 7-10). Usuki et al. teach that stratified clay is used as an inorganic portion of the composite material (column 7 lines 23-30).

22. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the article of Aida et al. with the material of Usuki et al. because the article of Aida et al. which has a product that is superior in moldability without loss of mechanical strength (page 3 lines 17-22) would benefit from the high mechanical strength and heat resistance (column 1 lines 7-11) of the material of Usuki et al.

23. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aida et al. (EP 0 405 982) in view of Funayama et al. (5,128,286) Tanaka et al. (JP 11-180990).

24. As stated above Aida et al. teach molded articles which contain a cross linking agent and inorganic fillers as well as phosphorous based flame retardants (page 5 lines 5—53), however they are silent regarding monofunctional phosphorus based flame retardants.

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25. Tanaka et al. teach specific organophosphorus compounds, and specifically mention alkenyl phosphinate compounds as preferred examples as flame retardants (Claim 1).

26. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the article of Aida et al. with the material of Tanaka et al. because the article of Aida et al. which has a product that is superior in moldability without loss of mechanical strength (page 3 lines 17-22) would benefit from the economic benefits of ease of manufacturing and separation refinement of material of Tanaka et al ([0026]).

Response to Arguments

27. It is noted that applicant's arguments regarding the coupling agent are moot in view of the new grounds of rejection.

28. With regards to Applicant's arguments regarding the term "previously adsorbed", examiner notes that this is an article claim, and the way the claim is written the crosslinking agent only has to be previously adsorbed onto the inorganic filler before the article is finished. It is further noted that if Applicant amends the claims to insert a limitation wherein the crosslinking agent is adsorbed onto said inorganic filler prior to crosslinking, the claims would be treated as a product by process claim.

29. Examiner notes that while Funayama, Usuki and Tanaka do not disclose all the features of the present claimed invention, they are used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, In re Nievelt, 482 F.2d 965, 179 USPQ 224, 226 (CCPA

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1973), In re Keller 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept and in combination with the primary reference, discloses the presently claimed invention, and there would be no need for secondary references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (Second Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Erik Kashnikow
Examiner
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